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ABSTRACT

The educational objective of the Russian "Development" curriculum for children ages 3-7 is the development of creative and intellectual abilities. Theoretical foundations for the curriculum include the works of Vygotsky, Venger, Leontev, and Zaporozhets, which offer ideas such as: (1) child development is the unity of affective and cognitive structures; (2) cognitive development occurs through child-motivated activities; and (3) developing child abilities in preschool-age children requires the amplification of preschool characteristics of development. The "Development" curriculum allows children to master specific cultural tools and actions by engaging in learning activities. These activities are organized around lessons in areas such as: speech development, art, play, and construction. Lessons give children the opportunity to use visual tools such as models, schemes, and symbols. Measurements of level of cognitive ability showed that children exposed to the "Development" curriculum had certain greater cognitive gains than those learning from the standard state curriculum. (JW)

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ED 389 451

ON THE PROBLEM OF DEVELOPMENT OF COGNITIVE ABILITIES IN PRESCHOOL AGE

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The changes in our society, which took place last years, made it possible to change our system of education. First of all, there are not the single state curriculum for kindergartens and schools now, but there are different alternative programs. Some of them were taken from the well known approaches to the child education (for example, Steiners) and other were elaborated independently. One of them is the curriculum "Development" for children from 3 up 7 years old. In Russia it is traditional age of preschool children, so it is one of the programs for kindergarten. The more complex variant of the curriculum is oriented at the work with intellectually gifted children of 5 to 7 years (the curriculum "Gifted Child"). At the present time these innovative curricula have found broad implementation in the practice of preschool education in Russia.

The program "Development" was elaborated under the leadership of L.Venger. It is based on the results of psychological researches which were carried out during 20 years in the laboratory of the abilities and creativity of the Center of Family and Childhood of Russian Academy of Education.

The main educational objective of this curriculum is the development of intellectual and creative abilities in children. It is in contrast to the traditional curriculum oriented towards the formation of knowledge and skills. There are three theoretical theses in the basis of the program.

First of them is the concept of the development of child abilities which was elaborated by L.Venger and his colleagues.

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For the basis of his concept Venger took the cultural-historical theory of Vygotsky. Vygotsky supposed that the main, most important, unit of psyche is a cultural tool, a sign, mastering of which leads to the development of human higher psychic functions.

However here we meet the contradiction forming the basis of Venger's theory. According to Vygotsky, a sign is primarily a word, a concept which fixes the main achievements of human culture. In this case the cognitive development of a child is considered as a series of successive approximations to the final developed conceptual apparatus of an adult. But the teacher of Venger, Zaporozhets, emphasized that the early childhood has its own specific nature and unique value. On the basis of this idea Venger elaborated a new positive model of the development of abilities in preschool age. He tried to find specific, non-conceptual types of cultural tools, characteristic for such development. These are different types of visual tools: first of all, visual models, schemes, symbols and so on.

Venger defined abilities as the systems of existing in culture psychological tools and actions with them, which are used to orient a person in reality. But in the same time according to Vygotsky theory the mastering of the tools by child and the development of different forms of mediation leads to the development of the self-control and the reflection in child. So it gives possibility to consider the child development as a unity of the affective and cognitive structures.

The second theoretical foundation of the curriculum "Development" is the Leont'ev activity theory. According to this theory the psychic development arises in the processes of the different kinds of motivated activities of child. The most important types of the activities for preschoolers are, first of all, play and the productive kinds of activity: construction, drawing. literary creativity and so on.

The third basic thesis is the concept of amplification of child development by Zaporozhets. Zaporozhets said that to develop child abilities in preschool age it is necessary to amplify specific preschool characteristics of development, but not to move school knowledge and skills into preschool age. So it is necessary to find some specific units of early child development and to give child possibilities of mastering of such units widely in the different kinds of specific preschool forms of child activities.

So the curriculum "Development" gives children possibility to master the specific for every age cultural tools and actions with them in the specific forms of child activity. First of all child uses such tools in external form with the help of adult (in the zone of approximal development), and then he (she) starts to use them in internal form. It gives possibility to use the specific cultural tools not to analyze only external world, but to regulate the own child behavior, to direct it to the problem solving.

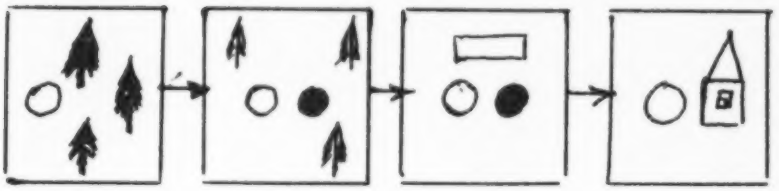
Practically it means that curriculum consists the different types of child activity, which are organized as the different types of lessons. For children of 3-4 years there are such kinds of lessons as sensory development, acquaintance with literature for children and speech development, drawing, play, construction. Children of 4-5 years have lessons of development of space orientation, acquaintance with literature for children and speech development, drawing, play, construction, nature, reading, math. The older children have reading, math, development of space orientation, acquaintance with literature for children and speech development, reading, drawing, construction, play, nature, logic.

In all kinds of lessons there were introduced special tasks to use visual tools: models, schemes, symbols. For example, in the lessons of the development

of space orientation children ought to use space schemes, maps of the different level of difficulty. Children start to use the map of doll's room, then the map of their own room, the map of kindergarten, the map of playground and so on. They use maps in different games where they find hidden toys, find the changes in the room and so on. The use of the map gives them possibility to select from the reality the most important points to solve the problem and to ignore may be something interesting for them (for example, new toy or bright picture). So they start to analyze reality not from the subjective position of their own interests but from objective to be successful in the problem solving. They start to control themselves and to direct their behavior in accordance with the certain task, certain rules. So they overcome the natural forms of behavior and construct the cultural forms by the use of cultural tools.

The similar things they do at the all types of lessons. For example, in the literature lessons children learn to analyze the structure of fairy tales to be able to retell exactly the fairy tale and to compose their owns. First of all children listen to the fairy tale, then they discuss it, answer the questions, repeat the plot of fairy tales in their role play and so on. It is the first, emotional-cognitive level of the analysis. Then they analyze the structure of this fairy tale and construct it's model (visual plan). They signify the personages of fairy tale (for example, Black Witch can be signify by black paper circle, White Witch - by white) and use such visual signs to draw the most important episodes to understand the essence of fairy tale and to be able to retell it. So they must select the objectively important parts independently of their own emotions. Sometimes children have opposite task: to compose the fairy tale according to given model (picture 1). So they must control their behavior to solve the problem, to use the cultural rules and norms, to use the cultural symbolic system.

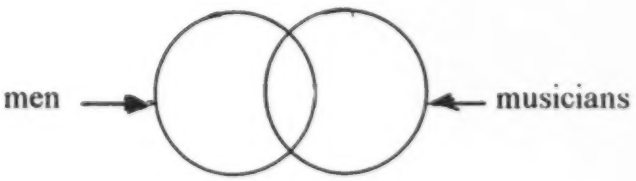
Picture 1.



The example of visual model to compose the fairy tale for 5-6 years old children.

Similar tasks children have in all types of the lessons. They use schemes of buildings in the construction; they use the Benn's diagrams in logic (picture 2); models of words in reading (analysis of sounds) and so on.

Picture 2.



Examples of Benn's diagrams for some logic tasks.

So the content of the curriculum "Development" is the acquisition of cultural tools and actions with them in the process of development of child activities.

But it is very important to analyze not only the content of the program

and its objectives but the forms of its realization. There are some main principles of the realization of our curriculum. Some of them are rather new for our system of education, because strict system of lessons was traditional for our of kindergartens before last years.

1. All lessons in our curriculum are rather a time for different games, play and child own exploration of reality. Usually we use the play form for different types of tasks.

2. There may be described two main forms of organization of child activity that are connected with the tasks. The first form is *emotional-cognitive* that is specific for tasks to use symbols to express the attitude towards the world (development of symbolic group of abilities). Children use color, shape, structure of objects as symbols of their feelings, predominantly in play, drawing, construction, literary creativity.

The second one is *cognitive* form, when children explore the objective peculiarities of reality and construct the visual model of its structure to solve the problem.

3. The next position is that the acquisition of cultural tools can be realized through the joint activity of children and adults. On the one side the adult is a partner for child, and on the other side he (she) is a mediator between human culture and child. Adult and child solve problems together in zone of approximal development of child accordance to individual child needs.

4. The special task for teacher is the organization of joint activity of children when they discuss some problems, divide their roles, materials and functions to elaborate the common decision and to realize the common activity.

5. It is not necessary for children and for teacher to do the same things for all of them. They have time to choose different types of activities: some lessons are obligatory for all children, but in some of them they can realize their individual needs.

Before we started to use the program "Development" in its new forms widely in Russia we carried out special research to analyze the changes in the child development which were connected with the use of the program. It was longitudinal study of children from 3 up 7 years old. In the same kindergarten we had two groups of children. One of them was experimental group (E) where we used our program and another one was control group (C) where traditional state program was used. Both of these groups have the same quantity of lessons.

Different procedures of measurement of the level of the development of child cognitive abilities were used once a year. Let me represent some data which were obtained in the last testing of children after four years of education according to our program in experimental group and the traditional curriculum in control group. We used a lot of different tests (25) and among them there were three groups of tests.

First of them was Wechsler test.

The second one was the set of tests which were elaborated and standardized in our laboratory. These are unverbal tests which permit to assess in the paper-pencil form (for children of 6-7 years old) the level of the development of some elements of school readiness, of the development of perception, visual and logical thinking. There are five tests in the set.

In the third group of tests different kinds of tasks were included (for example, Piaget tasks).

We had following results.

	Group E	Group C
Wechsler test (IQ)	118	105
Venger tests (the sum in standard scale)	16	11

In the results of the solution of all other tasks there were statistically confirmed differences between experimental and control groups. It is interesting that the medium coefficient of variations in group E was 30% and in group C - 46%. So the individual differences between children were less in the experimental group because there were not children of the lowest level of the development of cognitive abilities in this group.

These data were foundation of introduction of this program in the practice of preschool education in Russia.